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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,182	03/24/2004	Yaoguang Yao	512.43705X00	4173
20457 7590 01/08/2007 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			EXAMINER NUTTER, NATHAN M	
			ART UNIT	PAPER NUMBER
			1711	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/08/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/807,182

Applicant(s)

YAO ET AL.

Examiner

Nathan M. Nutter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 5-17 is/are pending in the application.
- 4a) Of the above claim(s) 5-7, 11 and 14-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,8-10, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 11-06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Group I, claims 1-13, and the separate species of "lignocellulose" for the biomass, and "phenols and phenol derivatives" for the reactive substance, in the reply filed on 24 April 2006 is acknowledged.

Applicants state that "(c)laims 1-13 read on the elected species." This is not so, as only claims 1, 2, 8, 10, 12 and 13 are generic in Group I, with only claims 3, 4 and 9 reading on the elected species. As such, claims 1-4, 8-10, 12 and 13 are elected, and deemed to read on the elected species. Claims 5-7, 11 and 14-17 are withdrawn from consideration as being drawn to an invention and species, non-elected, without traverse.

### ***Response to Amendment***

In response to the amendment filed 27 October 2006, the following is placed in effect.

The objection to claims 10, 12 and 13 under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim, is hereby expressly withdrawn.

The provisional rejection of claims 1, 2, 8-10 and 12 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 10/898,477 (Shimo et al US 2005/0020794), is hereby expressly withdrawn.

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The rejection of claims 1-4, 8-10, 12 and 13 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for phenol and derivatives thereof, and drying oils, the Specification does not reasonably provide enablement for the breadth of the claims as being "reactive compounds," is hereby expressly withdrawn.

The rejection of claims 10, 12 and 13 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, is hereby expressly withdrawn.

The rejection of claims 1, 2, 8-10 and 12 under 35 U.S.C. 102(e) as being anticipated by Shimo et al (US 2005/0020794), is hereby expressly withdrawn.

The rejection of claims 1, 3, 8 and 9 under 35 U.S.C. 102(b) as being clearly anticipated by Kunio et al (JP 05-140465), is hereby expressly withdrawn.

The rejection of claims 1, 2, 8-10, 12 and 13 under 35 U.S.C. 102(b) as being clearly anticipated by Rachor et al (US 3,912,706), is hereby expressly withdrawn

The rejection of claims 1, 2, 8, 10 12 and 13 under 35 U.S.C. 102(b) as being clearly anticipated by Funabiki et al (US 4,058,403), is hereby expressly withdrawn.

The rejection of claims 1, 2, 9, 10 and 13 under 35 U.S.C. 102(b) as being clearly anticipated by Calve et al (US 4,579,892), is hereby expressly withdrawn.

The rejection of claims 1, 2, 8-10, 12 and 13 under 35 U.S.C. 102(b) as being clearly anticipated by Tsujimoto et al (US 5,110,915), is hereby expressly withdrawn.

The following new ground of rejection is being presented.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 8-10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunio et al (JP 05-140465) taken in view of Novotny et al (US 2,300,307) and Tsujimoto et al (US 5,110,915), all previously cited.

The Abstract to Kunio et al (JP 05-140465) teaches first the phenolization of lignocellulose, then reacting this with phenol. The weight percentages for the reactive phenol embrace those recited and claimed herein. Note the entire Abstract.

The reference to Novotny et al shows the phenolization of gum accroides using phenols, as recited in instant claims 3 and 4. Note page 1, column 1 (lines 13 et seq.). The reference shows the phenolization at the final paragraph of column 1 of page 1. The addition of other phenols is shown at page 2, column 2 (lines 41-46).

The reference to Tsujimoto et al (US 5,110,915) teaches the phenolization of lignocellulose with subsequent reaction with formaldehyde. Note column 3 (lines 13-26 and 42-53), the paragraph bridging column 3 to column 4, the paragraph bridging column 5 to column 6 and column 6 (lines 41-50). Note, in particular, column 3 (lines 31-36) wherein the reference teaches known phenol agents to react with the biomass. These include butylphenols, octylphenol and phenyl phenol, as recited herein.

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Subsequent employment thereof in the composition of Kunio et al would have been obvious to an artisan having an ordinary skill in the art, since they are of a Markush group having the common feature of being phenols. Likewise, use of the phenolics of Tsujimoto et al in the process of Kunio would have been prima facie obvious to a skilled artisan. A high level of expectation of success would be present as well since all constituents are shown by the references used conventionally, as herein claimed.

***Response to Arguments***

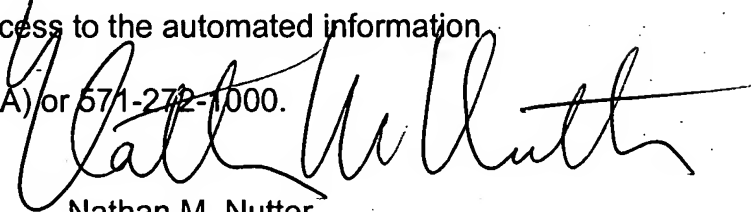
Applicant's arguments with respect to claims 1, 2, 8-10, 12 and 13 have been considered but are moot in view of the new ground of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan M. Nutter whose telephone number is 571-272-1076. The examiner can normally be reached on 9:30 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Nathan M. Nutter  
Primary Examiner  
Art Unit 1711

nmn

2 January 2007